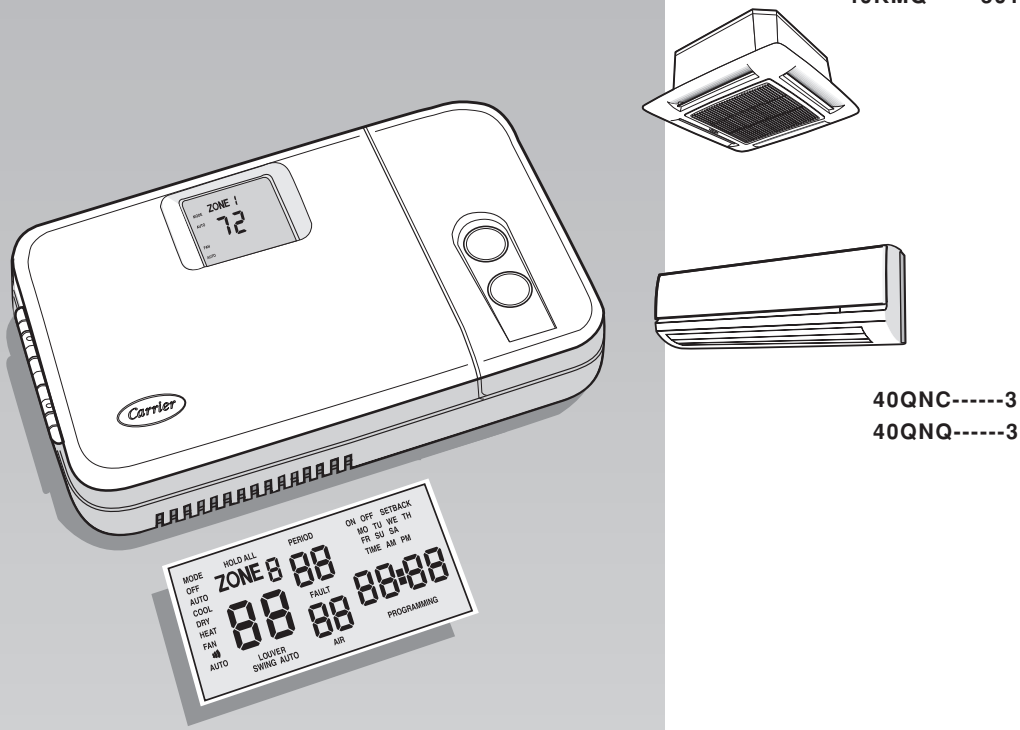
Carrier

Zone Manager

40KMC------301
40KMQ------301



40QNC------3
40QNQ------3

INSTALLATION MANUAL

Zone Manager
Installation manual

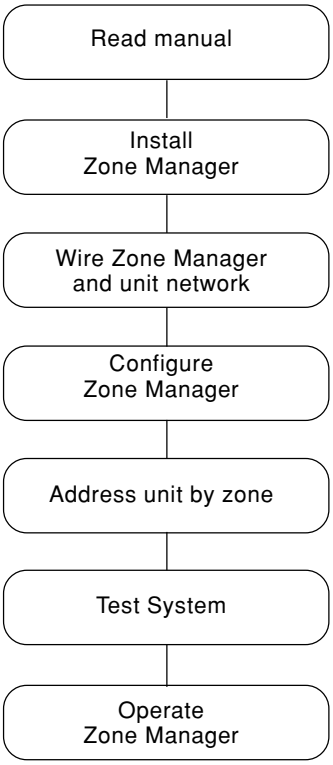
ENGLISH

This control system only operates with indoor units of the following models:
40KMC------301 and 40KMQ------301 Cassette, 40QNC------3 and 40QNQ------3 Hiwall
For installation instructions of this unit, refer to the relevant manuals.

Contents

	Page
General information	2
Characteristics	2
Choosing the installation site	3
Installation	4
Electrical connections	5/6
Configuration	7/12
Unit zone addressing	13/14
Test System	14
Smart Start function	15
Trouble Shooting	16

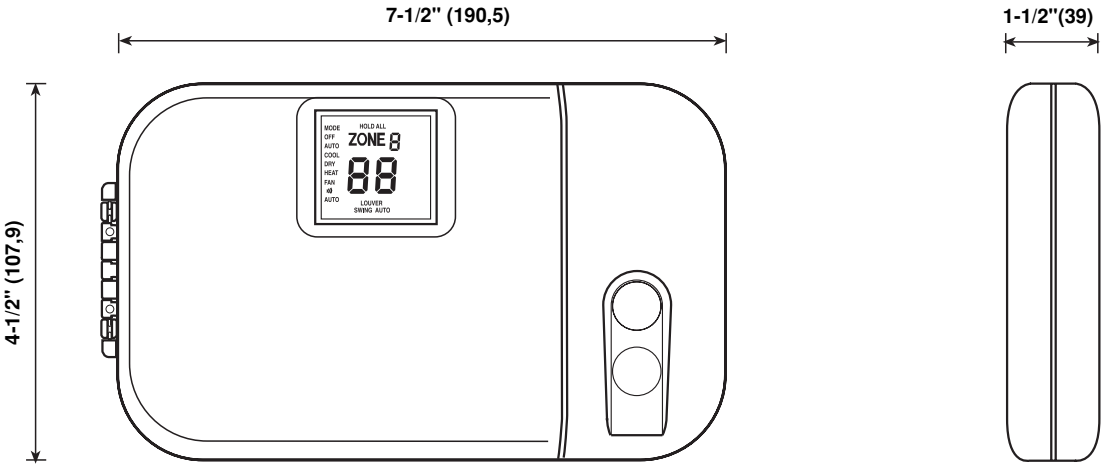
Installation Flow Chart



Zone Manager

General information and characteristics

Dimensions (mm)



IMPORTANT:
Read this instruction manual thoroughly before starting the installation.

- For trouble-free installation, which should be carried out by a qualified installer, follow the installation chart sequence.
- Follow all current national safety code requirements. In particular ensure that a properly sized and connected ground wire is in place.
- After installation thoroughly test the system operation and explain all system functions to the owner.
- Leave this manual with the owner for consultation during future periodic maintenance.
- Dispose of packaging material in accordance with local requirements.
- The manufacturer denies any responsibility and warranty shall be void if these installation instructions are not observed.
- Inspect equipment for damage due to improper transportation or handling: file an immediate claim with the shipping company. Do not install or use damaged units.
- In case of any malfunctioning turn the unit off, disconnect the mains power supply and contact a qualified service engineer.

Models

There is only 1 model, which is easily configurable for all installations.

Products that the Zone Manager can Interface

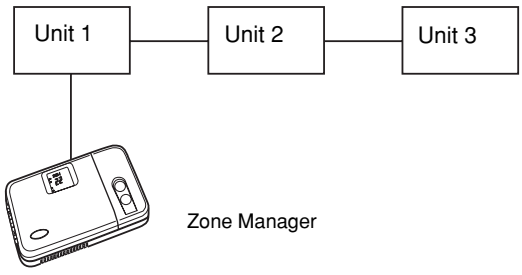
40KMC and 40KMQ------301 Cassette,
40QNC and 40QNQ------3 Hiwall.

Wiring

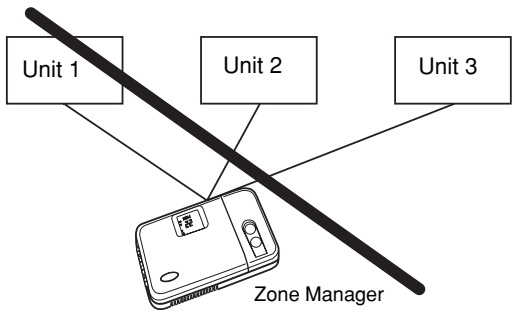
- The Zone Manager can be connected to one unit (that is the first in the network).
- Each unit must be connected one after the other (daisy chain).
- If the Zone Manager is to use its room sensor the controller has to be located in the same area as the addressed unit(s) number 1.

Power

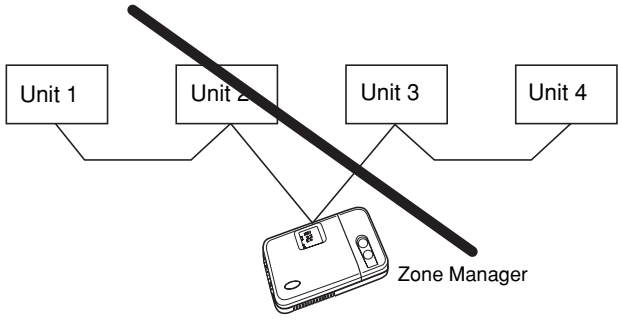
Note that the Zone Manager requires no batteries and is not "power stealing". It requires **12 VDC** to be connected for proper operation, which is easily obtained from any of the unit by means of an auxiliary board.
The Zone Manager will not operate without this connection.



Correct layout Daisy chain



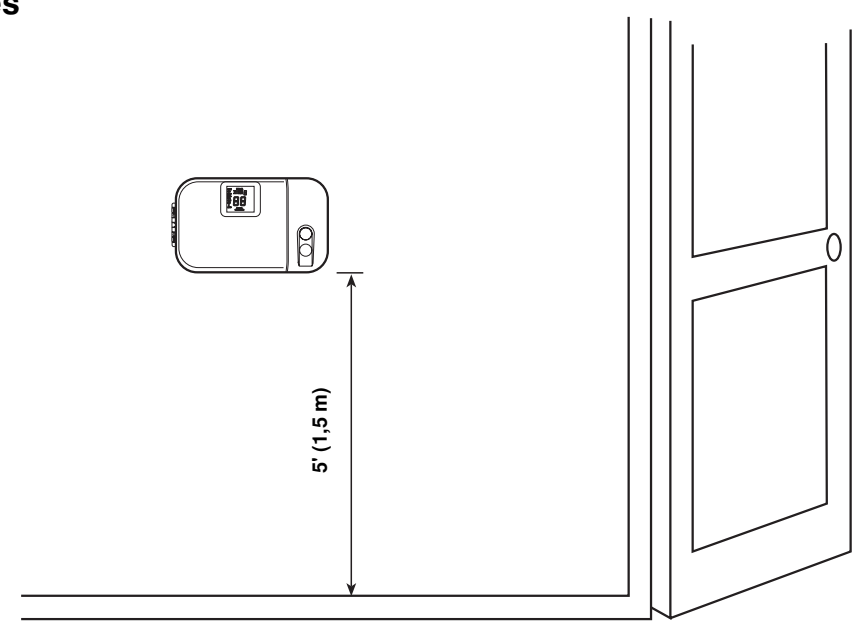
Incorrect layout must not be used Start Layout



Not recommended TEE connection

Zone Manager
Choosing the installation site

Minimum clearances



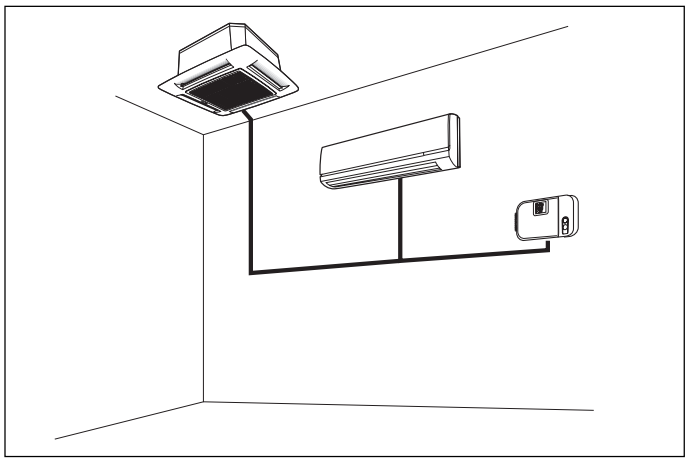
The Zone Manager Location

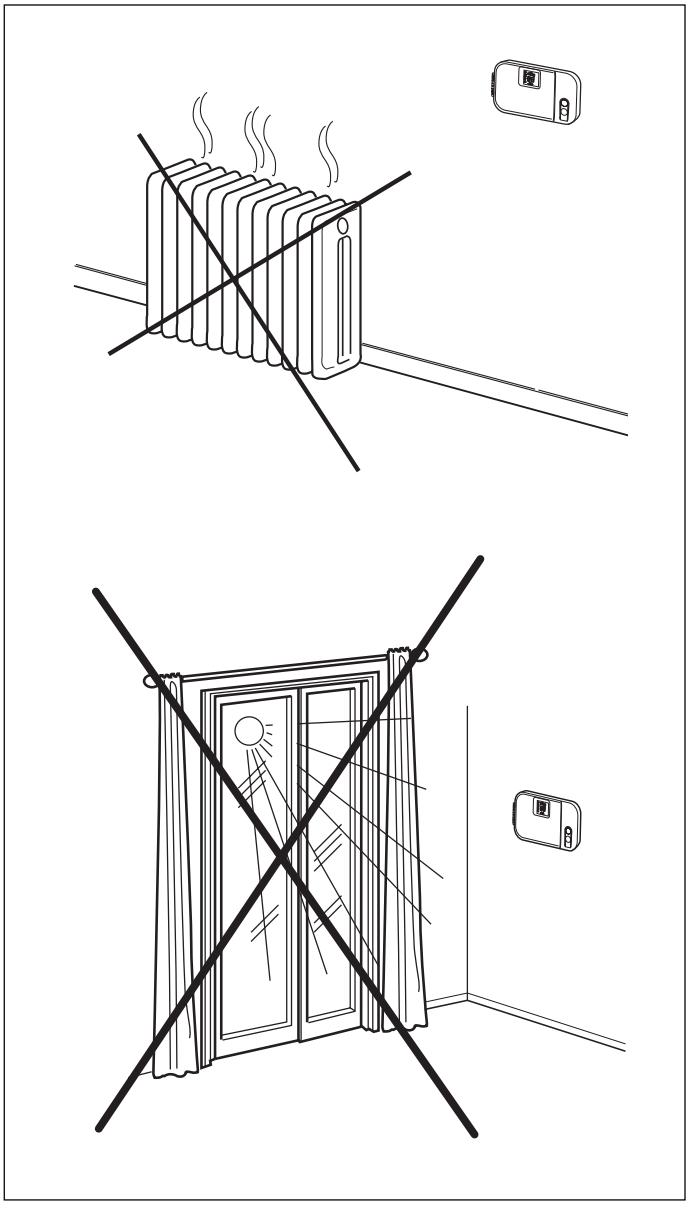
The Zone Manager can be located anywhere.
However, if the installation requires the systems in the location in zone 1 to use the Air Sensor on the Zone Manager; then, the controller should be mounted:

- Approximately 5 feet (1.5 m) from floor.
- In the same area where the units from group are located, preferably on an inside partitioning wall.
- On a section of wall without pipes or duct work.

If the air sensor on the Zone Manager has been selected, it should NOT be mounted:

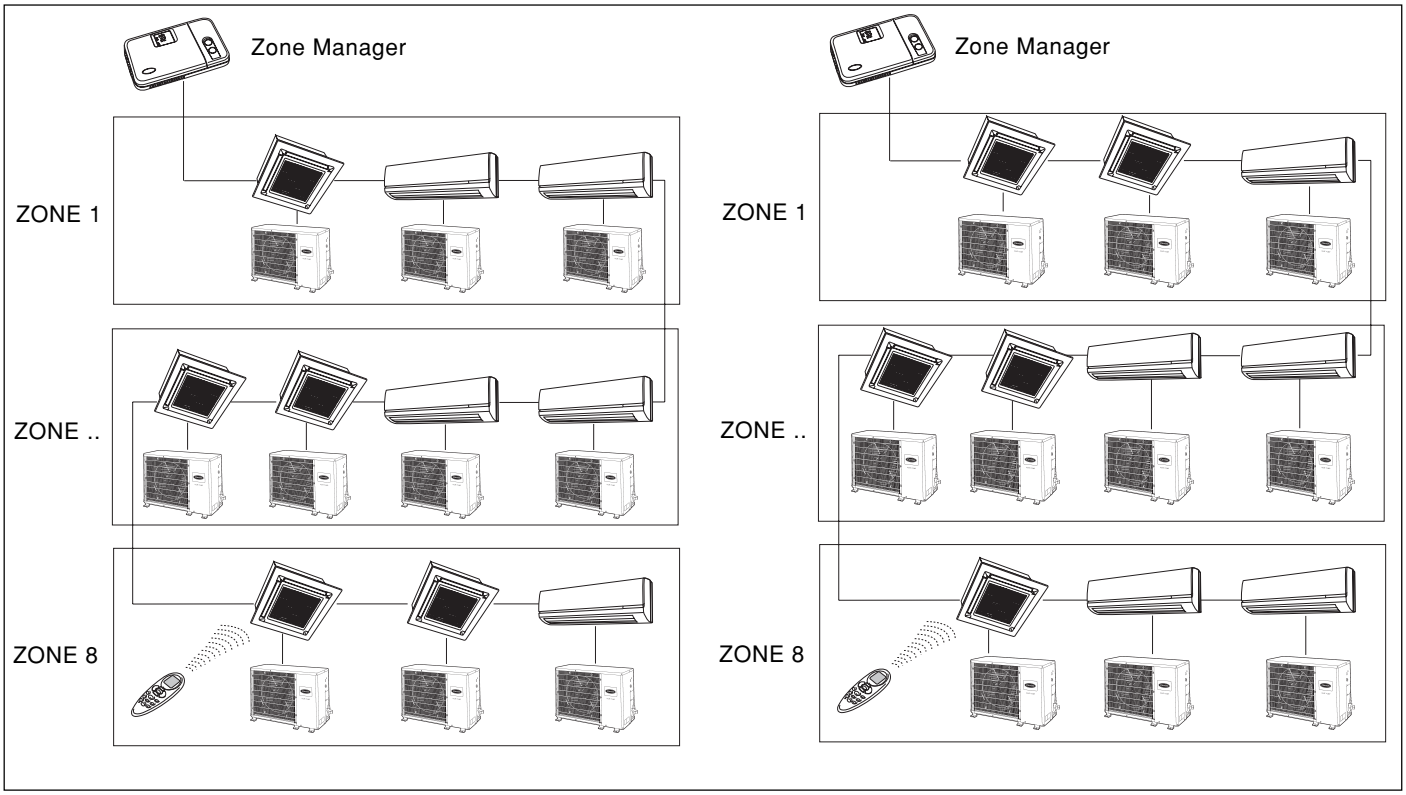
- Close to a window, on an outside wall, or next to a door leading to the outside.
- Exposed to direct light or heat from a lamp, sun, fireplace, or other temperature-radiating object which may cause a false reading.
- Close to or in direct airflow of a heating or cooling supply.
- In areas with poor air circulation, such as behind a door or in an alcove.





Zone Manager

Installation



Considerations

- Maximum of 150 feet (500 m) of total network wiring.
- Maximum of 32 units allowed on a system.
- Maximum number of zones 8.
- Only zone 1 can use the room sensor located on the Zone Manager. Network wiring must be daisy chained.

CAUTION:
Star configuration can cause improper operation of the Zone Manager.

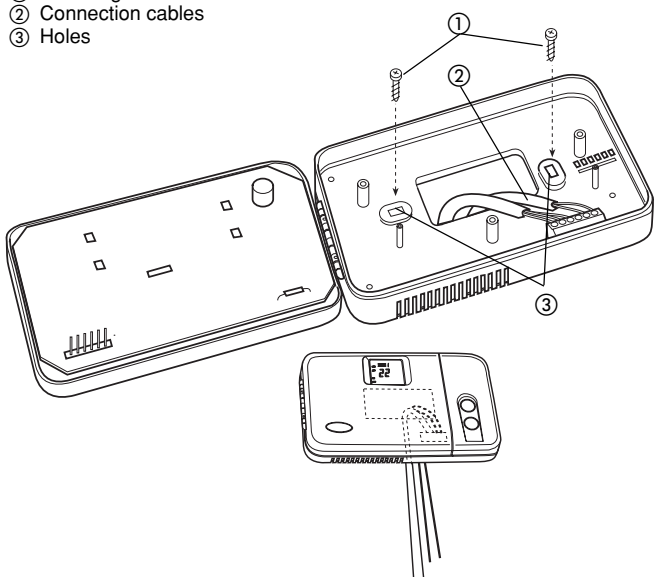
Mounting

WARNING:
Before installing the Zone Manager, turn off all power to the unit that will supply power to the Zone Manager. Electrical shock can cause personal injury or death.

- Turn off all power to the unit.
- Open the Zone Manager rear door (mounting base) to expose mounting holes.
  The base can be removed to simplify mounting (snap apart carefully at hinge to separate mounting base from remainder of the Zone Manager).
- Route the Zone Manager wires through the large hole in the mounting base.
  Level mounting base against wall (for aesthetic value only the Zone Manager need not be level for proper operation) and mark the wall through the 2 mounting holes.
- Drill two 3/16" (5 mm) mounting holes in wall where marked.
- Secure mounting base to wall with 2 screws and anchors provided (additional anchoring holes available for more secure mounting if needed), making sure all wires extend through hole in mounting base.
- Adjust length and routing of each wire to reach the proper terminal in the connector block on the mounting base, with 1/4" (6 mm) of extra wire [strip no more than 1/4" (6 mm) of insulation from each wire to prevent adjacent wires from shorting together when connected].
- Match and connect equipment wires to proper terminals in the connector block (See section "Electrical connections"). Both power and communication wires must be connected correctly for proper Zone Manager operation.
- Push any excess wire into the wall and against mounting base. If the air sensor is being used on the Zone Manager, seal hole in wall to prevent air leaks.
  Leaks can affect sensor operation.
- Close the Zone Manager assembly making sure pins on back of circuit board align with sockets in connector.

Mounting

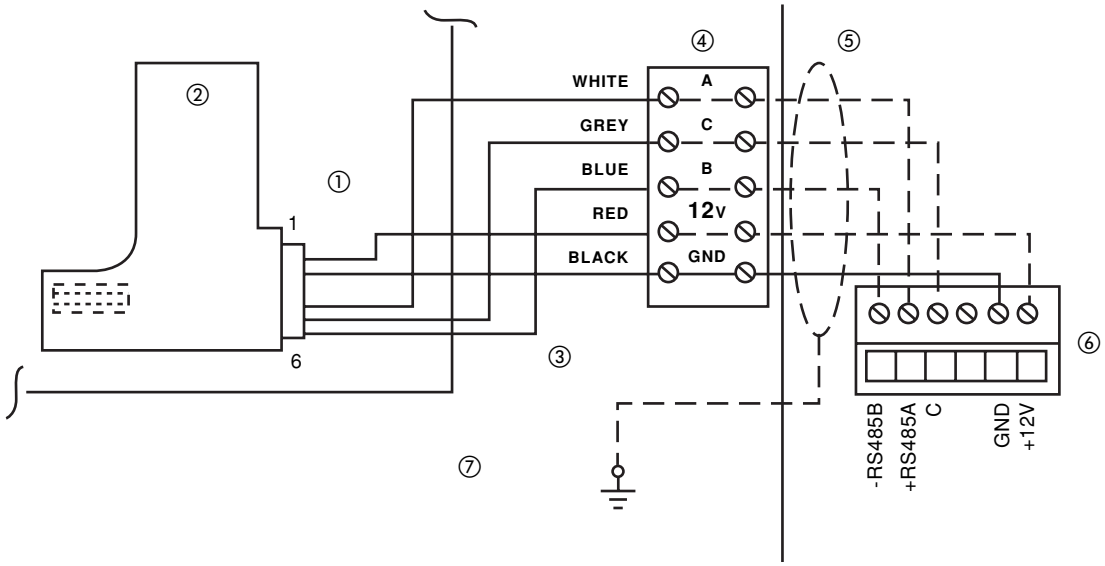
① Mounting screws
② Connection cables
③ Holes



Zone Manager
Electrical connections

GB
ENGLISH

Diagram 1: wiring for Zone manager



① Main board
② Communication board (supplied with the kit)
③ 5-cable wiring (supplied with the kit)
④ Auxiliary terminal block (supplied with the kit)
⑤ Wiring by the installer
⑥ Zone Manager terminal block (mounted on the Zone Manager)
⑦ Indoor unit

Installation of the kit into the unit

For the connection of the Zone Manager to the unit, you need to install the following kit:

Unit type	Kit part number
40 KMC------301	33MC9004
40 KMQ------301	33MC9004
40 QNC------3	33MC9004
40 QNC------3	33MC9004

CAUTION:
Improper wiring or installation may damage the Zone Manager.
Check to make sure wiring is correct before proceeding with turning on unit.

Please note that:

- A communication board is required for all products that are networked to a Zone Manager system.
- The kit includes a communication board, a pre-assembled 5-cable wiring connected to a 6-way connector and to a 5-way terminal block and one installation manual.
- The auxiliary terminal block (5 poles) must be secured according to the 33MC9004 wiring kit installation manual.
- By means of the **J8** connector, connect the communication board to the main board.
  In the case of troubles during installation, remove the main board from the control box.

Wiring Zone Manager to master unit

The Zone Manager has the ability to control up to 32 units. To insure the correct operation of this system the wiring must be installed using the following guidelines.

WARNING:
Before connecting any wiring to the Zone Manager , turn off all power to the unit that will supply power to the Zone Manager. Electrical shock can cause personal injury or death.

The Zone Manager is connected to the master unit using the following instructions. Refer to Diagram 1 when making these connections.

AUXILIARY TERMINAL BLOCK AND ZONE MANAGER CONNECTION

- Loosen the screws of the auxiliary terminal block.
- Connect the auxiliary terminal block to the Zone Manager terminal block as follows:

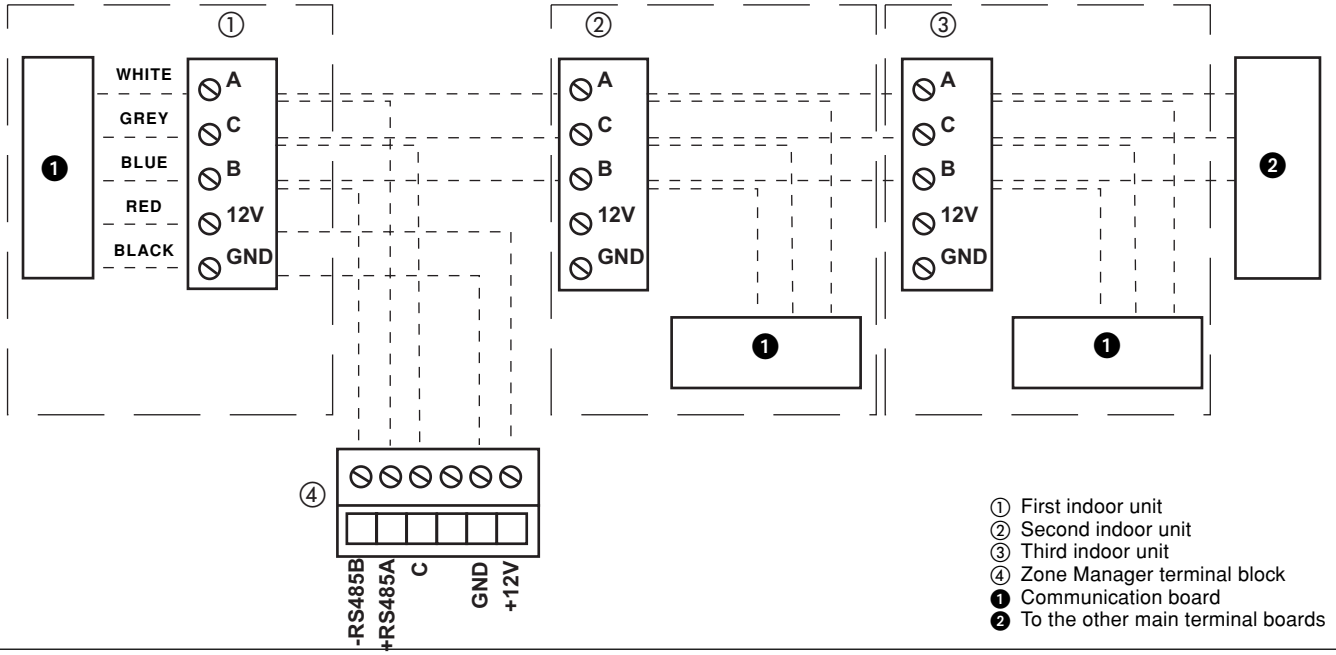
Auxiliary terminal block terminals	Zone Manager terminal block
+12V Red	+12V
GND Black	GND
A White	+R5485A
C Grey	C
B Blue	-R5485B

Use a standard 18AWG solid thermostat wire. The communication cable needs to be 3 wires surrounded with a shielded cable.

- Tighten the terminal block screws.

Zone Manager
Electrical connections

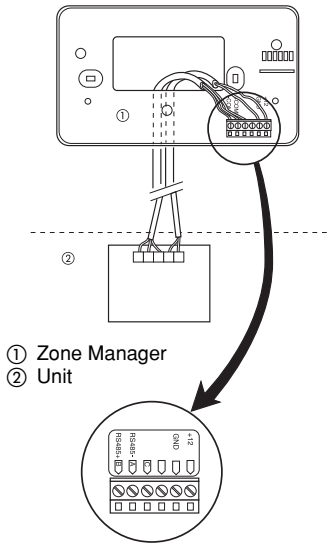
Diagram 2: multiple units in a network configuration



NOTE: The cable shield of the zone manager communication cable must be earthed from the air conditioner side (indoor unit); insulate the latter from the zone manager side in order to prevent any accidental contact, which might damage the device (Zone Manager).

Wiring Materials required (supplied by installer)

- 1 small screwdriver
- 18AWG solid thermostat wire



Networking multiple units

Multiple units can be connected together and controlled by a single Zone Manager.
Diagram 3 is a block diagram of multiple units networked into a system controlled by 1 Zone Manager.
To accomplish this the communication boards from the networked units must be wired together in a daisy chain configuration.
The following section describes how to do the wire installation for a networked system.

Wiring for networking multiple units

Materials required for wiring multiple units into a network. Reference Diagram 2 when doing this installation.

- Loosen the screws on terminals **A**, **C** , **B, 12V** and **GND** from the auxiliary terminal block in all units.
- Connect the first terminal block to the other terminal block:

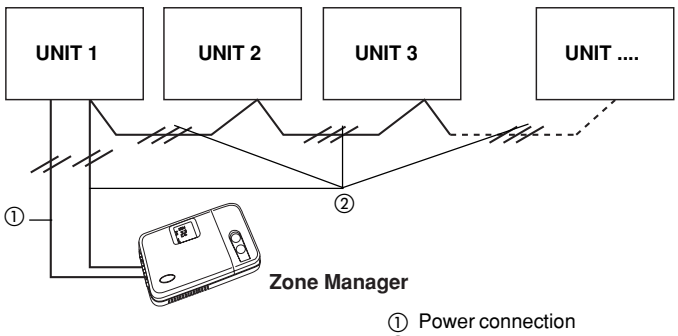
1st Auxiliary terminal block	2nd Auxiliary terminal block	3rd Auxiliary terminal block	_
A	A	A	_
C	C	C	_
B	B	B	_

- Tighten all the screws.

CAUTION:

- The Zone Manager must only be connected to one single auxiliary terminal block.
- **Do not tie the shield to a GND post at more than 1 location.**

Diagram 3: networking of multiple units



Zone Manager
Configuration

GB
ENGLISH

Configuration options are intended to be selected at installation and normally are not modified by the end user.
These options are not discussed in the end user's manual and therefore must be made as part of the installation.
A special procedure allows entry into the configuration mode.
The Zone Manager will automatically exit this mode if no button is pressed within 20 seconds.
While in configuration mode, 9 choices can be made:

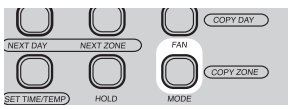
- Fahrenheit **(F)** or Celsius **(C)** (Default: Celsius).
- Room Air Override **ON** or **OFF** (Default: OFF).
- Cooling only **(C)** or Heat Pump **(H)** (Default: Heat Pump).
- Auto Mode Setback Deadband: Value Adjustment.
- Number of Zone Installed (Default 1): Value Adjustment.
- Smart Start **ON** or **OFF** (Default: ON).
- Military Time (**ON**) or Standard Time (**OFF**) (Default: Standard Time).
- Local unit override **ON** or **OFF** (Default: OFF).
- Ability to not allow mode or schedule changes: Lock (Default : UL, Unlocked)

In configuration mode ON is represented by the display "**On**" and OFF is represented by the display "**OF**."

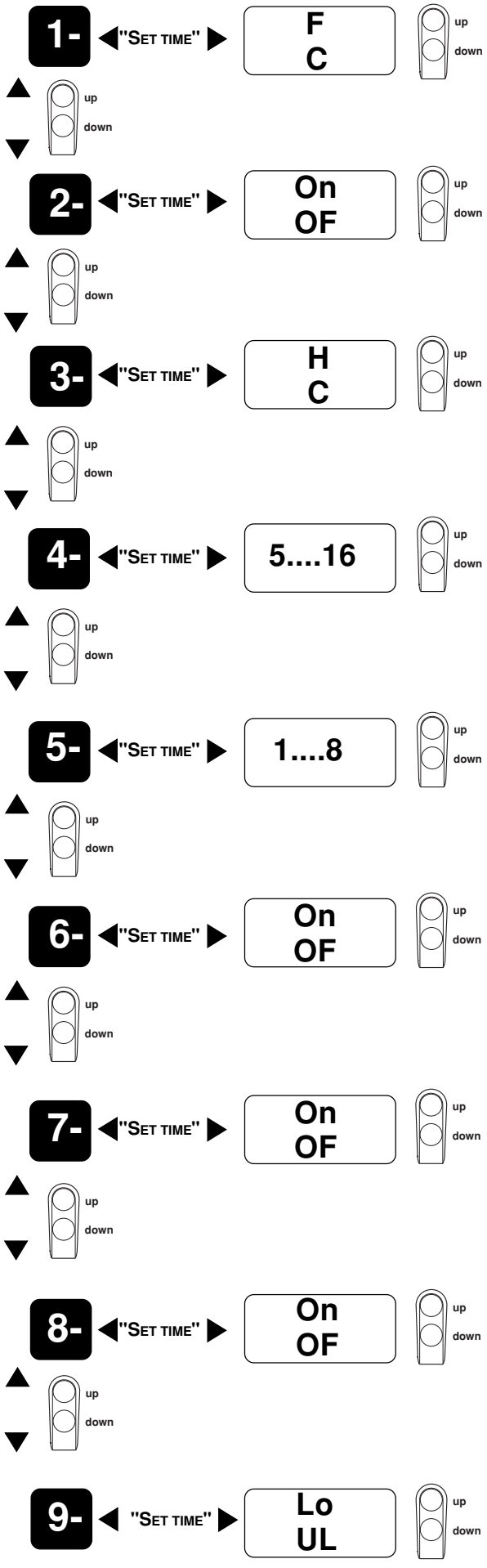
An explanation for each of these and how to enter the configuration mode follows.

To enter configuration mode

Press and hold the "**FAN**" button for approximately 5 seconds until the normal display disappears and reads "**1-**" and either "**C**" or "**F**". You are now in the configuration mode.

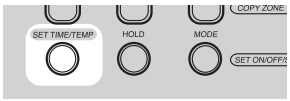


NOTE:
If no button is pressed for 20 seconds, the Zone Manager will exit configuration mode and resume normal operation.
To re-enter configuration mode, "**FAN**" button must be pressed and held again.

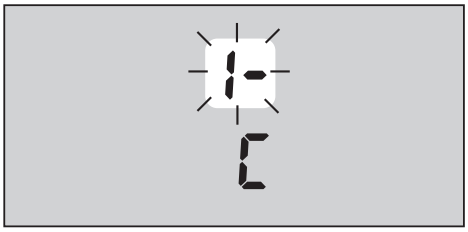


Zone Manager
Configuration

To change multiple configuration parameters:



To make another modification to configuration, depress the "**SET TIME/TEMP**" button. This will toggle between selecting the Configuration Option and the Configuration Value.
To change the selection, press the "**up**" and "**down**" arrows until the desired configuration selection is displayed.

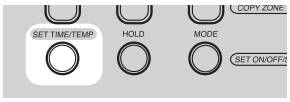


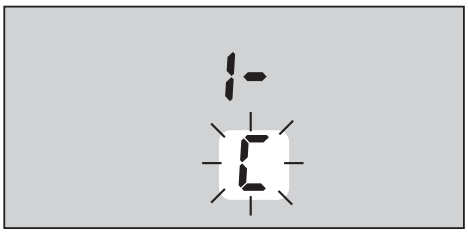
1- FAHRENHEIT OR CELSIUS

Select between Fahrenheit (**F**) or Celsius (**C**) operation.
Factory default is Celsius.

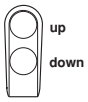
To select while in configuration mode:

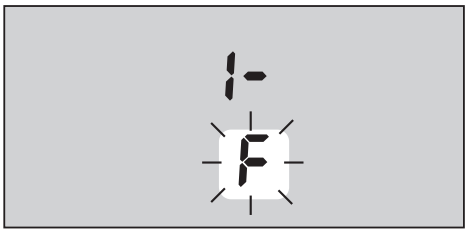
- The Configuration Option ("**1-**") and the current selection should be displayed.



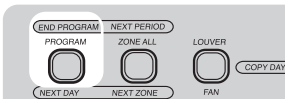


- Depress the "**SET TIME/TEMP**" button to alter the current selection (current selection will now blink).





- Use either the "**up**" or "**down**" button to change between "**F**" or "**C**".

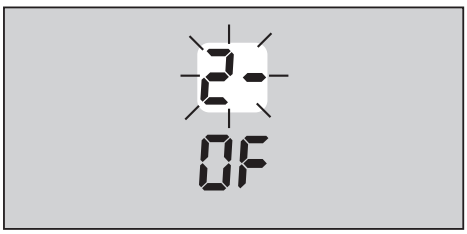


- To end configuration, either depress the "**END PROGRAM**" button or do not press any buttons for 20 seconds.

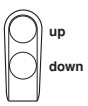
2- **ROOM THERMISTOR OVERRIDE**

Select whether the units in zone 1 will use room temperature sensor in the Zone Manager "**ON**"or whether they will use the air sensor at the units "**OF**". Factory default is **OFF**.
If the chosen option is "**ON**" the room air temperature will be displayed.

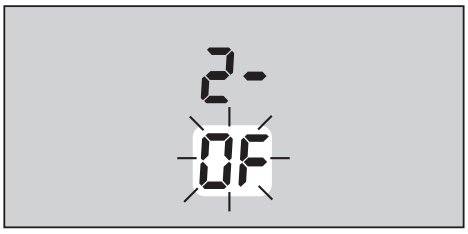
CAUTION:
If the room air sensor on the Zone Manager is selected, installation of the Zone Manager is critical.

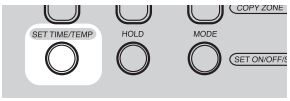


To select while in configuration mode:

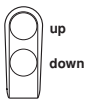


- Press the "**up**" or "**down**" button until "**2-**" is displayed.

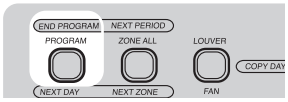




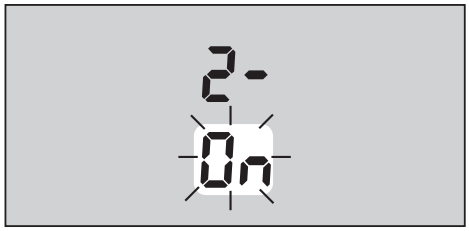
- Depress the "**SET TIME/TEMP**" button to alter the current selection (current selection will now blink).



• Use either the "**up**" or "**down**" button to change between "**OF**" (OFF) and "**On**" (ON).

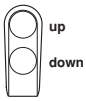


• To end configuration, either depress the "**END PROGRAM**" button or do not push any buttons for 20 seconds.

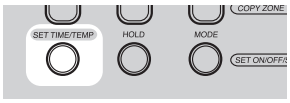


3- COOLING ONLY OR HEAT PUMP: SELECTION

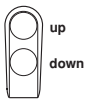
Select whether the system is a cooling only or Heat Pump system. If there is a combination of cooling only and heat pump units on the system, then Heat Pump must be selected.
Factory default is Heat Pump.
To select when in configuration mode:



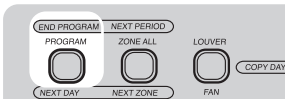
• Press the "**up**" or "**down**" button until "**3-**" is displayed.



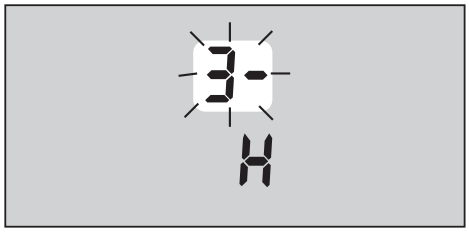
• Depress the "**SET TIME/TEMP**" button to change the current selection (current selection will now blink).

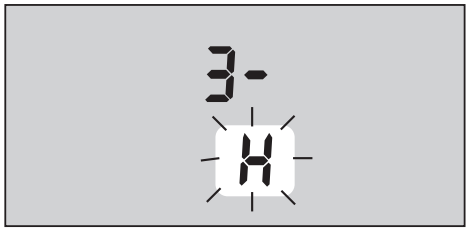


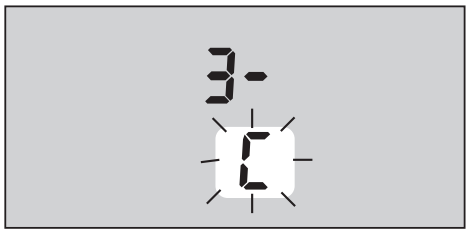
• Use either the "**up**" or "**down**" button to change between "**H**" (Heat Pump) and "**C**" (Cooling only).



• To end configuration, either depress the "**END PROGRAM**" button do not push any buttons for 20 seconds.







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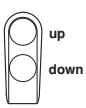
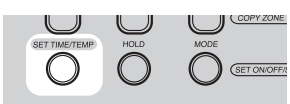
4 - AUTO MODE SETBACK DEADBAND: ADJUSTMENT

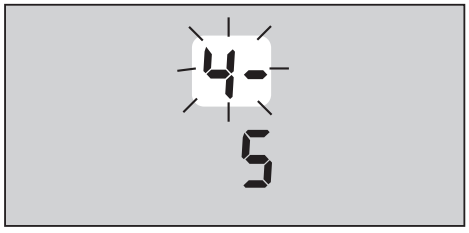
Select the number of degrees to setback the heating and cooling setpoints while a unit is in auto mode during a setback period.
Factory default is 9°C (or 18°F).
To select when in configuration mode:

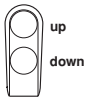


• Press the "**up**" or "**down**" button until "**4-**" is displayed.

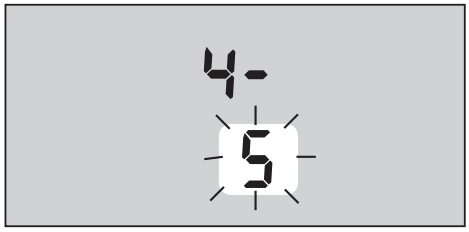


• Depress the "**SET TIME/TEMP**" button to change the current selection (current selection will now blink).

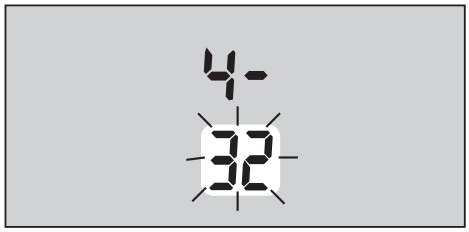


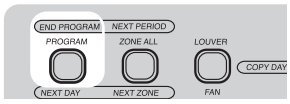


• Use either the "**up**" or "**down**" button to change the current number of degrees to setback.
(Allowable selections are 4 to 18°C or 8 to 36°F).



NOTE:
The scale of the temperature is dependent up on the currently configured scale. If the configuration item "**1-**" is set to "**F**" and configuration item "**4-**" has a value of 16, then an Auto Mode Setback Deadband of 16°F will be used. If the configuration item "**1-**" is set to "**C**" and configuration item "**4-**" has a value of 16, then an Auto Mode Setback Deadband of 16°C will be used.

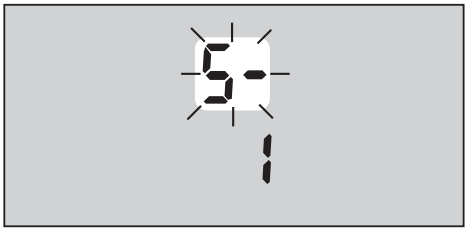


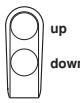


• To end configuration, either depress the "**END PROGRAM**" button or do not push any buttons for 20 seconds.

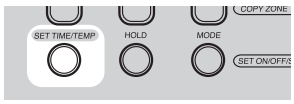
5- ZONE CONFIGURATION

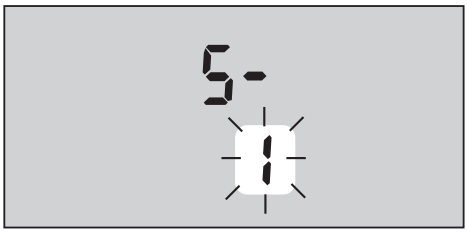
This adjustment controls the number of zones on the system.
Factory default is 1 zone.
To adjust when in configuration mode:



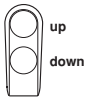


• Press the "**up**" or "**down**" button until "**5-**" is displayed.

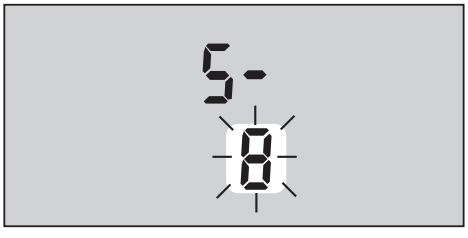


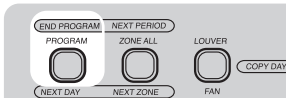


• Depress the "**SET TIME/TEMP**" button to change the current selection (current selection will now blink).



• Use either the "**up**" or "**down**" button to change the number of zones installed, allowable selection are **1- 8** zones.

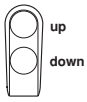




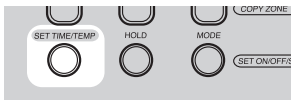
• To end configuration, either depress the "**END PROGRAM**" button or do not push any buttons for 20 seconds.

6- SMART START ACTIVE

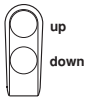
This selection allows you to select whether Smart Start is active or not. Factory default is "**On**".
See Algorithm Descriptions for an explanation of Smart Start.
To adjust when in configuration mode:



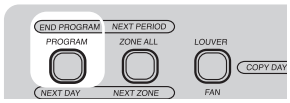
• Press the "**up**" or "**down**" button until "**6-**" is displayed.



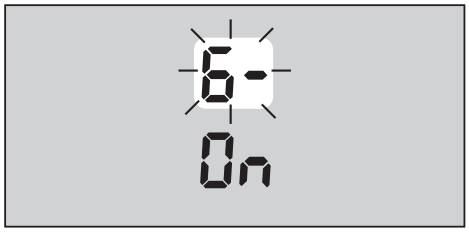
• Depress the "**SET TIME/TEMP**" button to change the current selection (current selection will now blink).

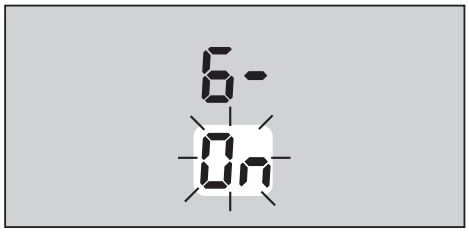


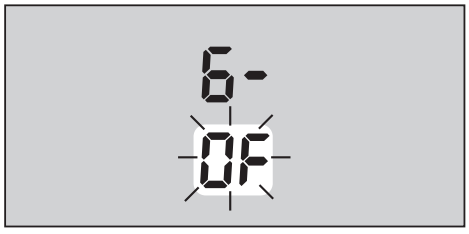
• Use either the "**up**" or "**down**" button to change your selection to "**On**" (ON) or "**OF**" (OFF).



• To end configuration, either depress the "**END PROGRAM**" button or do not push any buttons for 20 seconds.

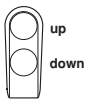




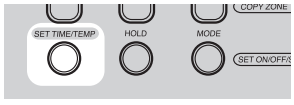


7- MILITARY OR STANDARD TIME

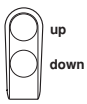
This adjustment controls whether time is displayed in military (24-hour clock) or standard format (12-hour AM/PM clock). Factory default is "**On**" for military time.



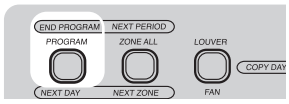
• Press the "**up**" or "**down**" button until "**7-**" is displayed.



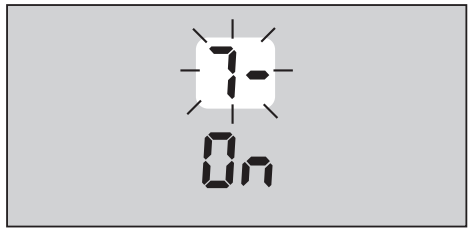
• Depress the "**SET TIME/TEMP**" button to change the current selection (current selection will now blink).

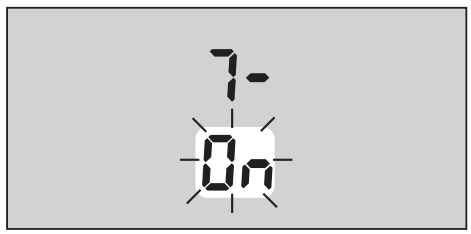


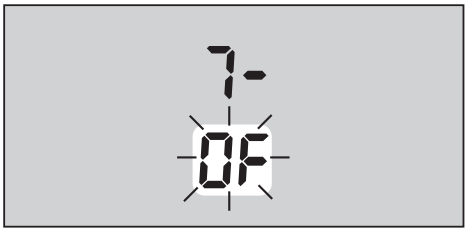
• Use either the "**up**" or "**down**" button to change to "**On**" (military time) or "**OF**" (standard time).



• To end configuration, either depress the "**END PROGRAM**" button or do not push any buttons for 20 seconds.

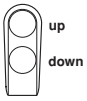




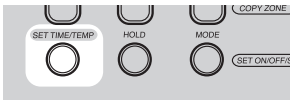


8- LOCAL UNIT OVERRIDE

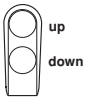
If Local Unit Override is active, certain information (operating mode, desired temperature, fanspeed, louver setting) from the Zone Manager will be ignored by a unit that has recently been locally controlled.The unit will control to the local settings for at least one hour using a local user interface. Factory default is "**OF**". To adjust when in configuration mode:



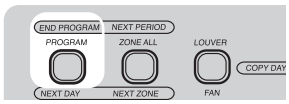
• Press the "**up**" or "**down**" button until "**8-**" is displayed.



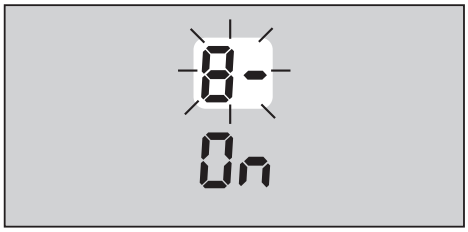
• Depress the "**SET TIME/TEMP**" button to change the current selection (current selection will now blink).

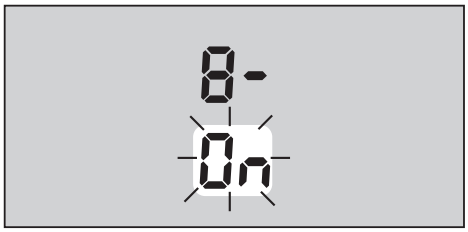


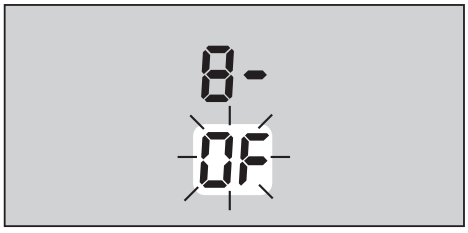
• Use either the "**up**" or "**down**" button to change to "**On**" for active Local Unit Override or "**OF**" for disabled Local Unit override.



• To end configuration, either depress the "**END PROGRAM**" button or do not push any buttons for 20 seconds.

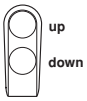




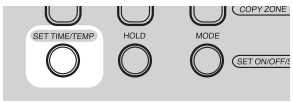


9- LOCK MODE

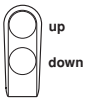
If this option is active **(Lo**) after 4 minutes the installer exits installation mode, the operator will not be able to change mode or program schedule.
If the operator press the "**MODE**" or "**PROGRAM**" button "**Lo:c**" will be displayed. Default is unlocked (**UL**).
To adjust when in configuration mode:



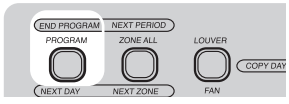
• Press the "**up**" or "**down**" button until "**9-**" is displayed.



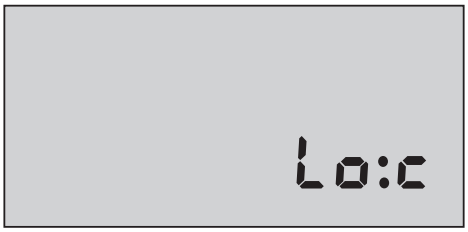
• Depress the "**SET TIME/TEMP**" button to change the current selection (current selection will now blink).

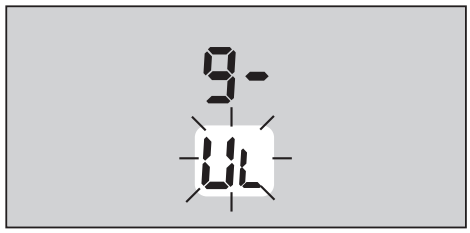


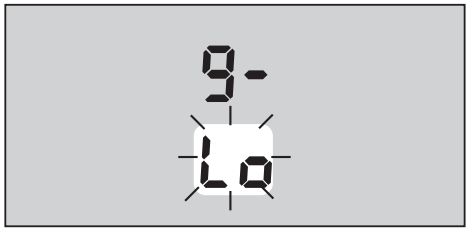
• Use either the "**up**" or "**down**" button to change to "**Lo**" to Lock mode and program schedule or "**UL**" to allow the end user modify these parameters.



• To end configuration, either depress the "**END PROGRAM**" button or do not push any buttons for 20 seconds.







Unit zone addressing

The units must have their communications address changed to the zone number they will occupy.
Figure shows an example using 9 units and 4 zones.
For this example, the values shown in Table 1 page 14 should be used.
For this example, units **B**, **C**, **E**, **H**, and **I** will occupy Zone 4.
Therefore their communications addresses should be configured to address 4.
The numbering of the zones must begin with Zone 1.
Any further zones must be added in a sequential order.
For example, configuring the zones 1, 2, 3, and 5 will result in improper operation.
(Fault code C4 would be seen).

Configuring the communication address using the IR remote

The instructions below refer to the unit configuration shown in the drawing on the next page.

- Each unit must have its own address ("**UAdr**" in the IR remote control menu) which will be different from the others. The example shows 9 units, so 9 different addresses will have to be configured.

- Suppose you want to configure units A and D in room (zone) 1. Keeping the IR remote control OFF, press the keys mode (M) and louver simultaneously for at least 5 seconds to access to the configuration menus.
  Use "**MODE**" button to select item "**UAdr**" and then use ∧ and ∨ buttons to select address "**1**".
  Now press louver button to send a message to unit "A".
  A "beep" confirms the address reception.
  Make sure one same address is not sent to the other units.

- Press ∧ button to select address "2" and by means of louver button send the message to unit "D".
  Press mode (M) button again to select item "**ZONE**".
  Use ∧ and ∨ buttons to select zone "1".
  Press louver button to send the message to unit "A" and "D".

Configuration of unit "F" is made as follows:

- If "**ZONE**" menu is still active, press ∧ button to select zone "2".
  Press louver button to send the message to unit "F".
  A "beep" confirms message reception.

If more than 30 seconds have passed from configuration of unit "D" , the IR remote control exits from the configuration menu automatically.
If so, go back to the menu as previously described.

- By means of mode (M) button scroll all menus and select item "**UAdr**".
  Use ∧ button to select address "3".
  Press louver button to send the message to unit "F.
  A "beep" confirms message reception.

Configuring the communication address using the Room Controller

Configuring the electronic main board

The instructions below refer to the unit configuration shown in the drawing on the next page.

- Each unit must have its own address ("21" in the room controller menu) which will be different from the others. The example shows 9 units, so 9 different addresses will have to be configured.
- Suppose you want to configure units A and D in room (zone) 1.

Keeping the Room controller OFF, press the "UP" and "DOWN" buttons simultaneously for at least 5 seconds

to access to the configuration menu.

After 5 seconds, "20" will be displayed. Press "UP" button to select item "21".

Now press "MODE" button to display this item value.

To change this value, press "UP" or "DOWN" button and select address "1" and then press "FAN" button to send the message to the unit.

Only the value currently displayed will be sent to the unit.

For zone configuration, display item "22", press "MODE" button and finally "UP" button.
Press "MODE" button to select this item value.
To change this value, press "UP" or "DOWN" button and select address "1" and then press "FAN" button to send the message to the unit.
Only the value currently displayed will be sent to the unit.

- Use the CRC connected to unit "D" to repeat the above-mentioned operations:
  set "2" in item "21" and "1" in item "22"..

- Use the CRC connected to unit "F" to repeat the above-mentioned operations:
  set "3" in item "21" and "2" in item "22".

For the other units, follow the instructions above and the values shown in table 1.

After 10 seconds, the controller exits from the configuration unit automatically without sending any message.

NOTE:
If units are grouped to one Room Controller, all units will end up having the same configuration value.

Zone Manager

Unit zone addressing and control system

Example unit configuration

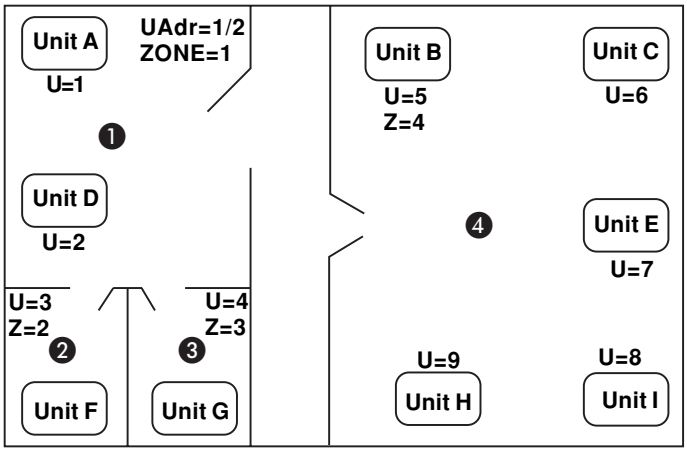
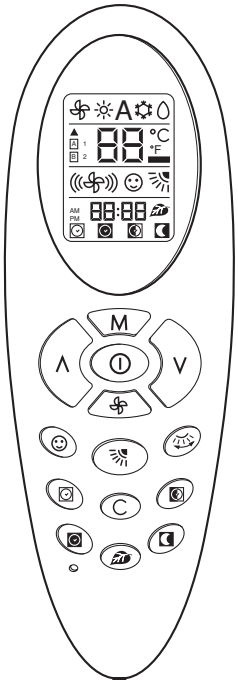


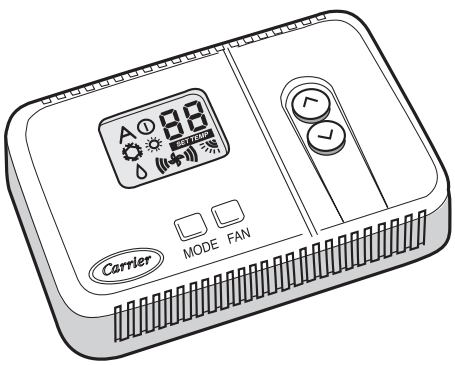
Table 1: CCN addresses for units

Unit	A	B	C	D	E	F	G	H	I
Zone or item 22	1	4	4	1	4	2	3	4	4
Unit address (UAdr) or item 21	1	5	6	2	7	3	4	9	8

Remote control

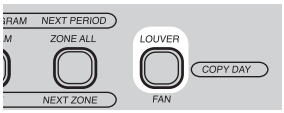


Room Controller

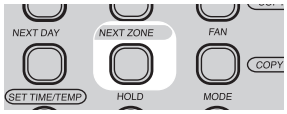


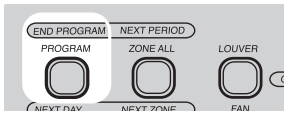
Test System Installation

To assist with installation wiring and unit zone addressing issues, an installation test mode exists, that allows the installer to easily verify that all units, by zone, are communicating properly with the Zone Manager.



- To enter installation test mode on the Zone Manager, depress and hold the "**LOUVER**" button down for 5 seconds.
  When test mode is entered, the display will show zone number and "**conF**" in place of the system clock.





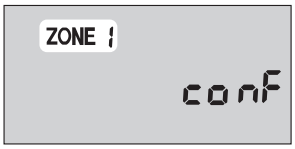
- The only buttons that are active at this time are "**NEXT ZONE**" and "**END PROGRAM**".

The Zone Manager will continuously send out messages to the units in the displayed zone, telling them to flash their protect LED (RED) at a rate of 1 sec on and 1 sec off.
The installer can now visually verify that the units in the zone are communicating properly with the Zone Manager.

The "**NEXT ZONE**" button can be depressed to select a new zone to test.
Once the zone is changed, all units in the new zone will start blinking their protect LEDs, assuming addressing and wiring is correct.
The previous zone will time out and stop blinking their protect LEDs (RED), after 10 seconds of not receiving a message from the Zone Manager.

The installer should run this test on all zones in the system, verifying that every unit is addressed and wired properly.
When complete, the installer can depress the "**END PROGRAM**" button to disable Installation Test Mode and have the Zone Manager operate normally again.

Once complete, the installer can be confident that the Zone Manager will control all of the zones, based upon each zones programming information.

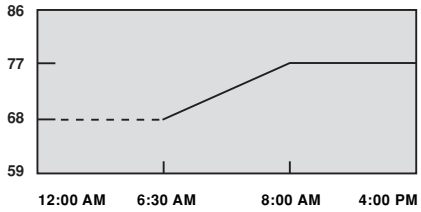


Zone Manager
Smart Start function

The purpose of Smart Start is so that the room temperature is at the desired temperature by the time the "**ON**" period starts. Smart Start is only valid if the period transition is from " **OFF**" to "**ON**" in "**HEAT**", "**COOL**", or "**AUTO**" modes; or a "Setback" to "**ON**" period in "**AUTO**".
If the Zone Manager has been configured for Smart Start then the following applies, otherwise period transitions will occur on time boundaries.

If the Zone Manager is currently operating in an "**OFF**" period and the next period is an "**ON**" period, the following will occur 1.5 hours before the next period is entered.

"OFF" to "ON" period if the operating mode is Heat



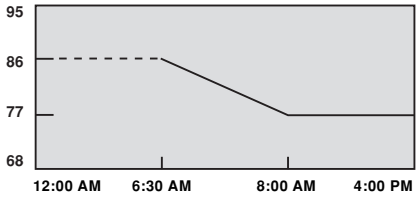
If the operating mode is "**HEAT**", 1.5 hours before the "**ON**" period starts, the unit will turn on in Heat mode.
The unit will control the room air temperature to the "**ON**" periods set point minus 9˚ F
The controlling set point will then ramp to the "**ON**" periods set point.

EXAMPLE OF SMART START FOR HEATING MODE:

TIME	*SETPOINT*	*TYPE OF PERIOD*
12:00 am		*OFF*
8:00 am	*77° F*	*ON*

- *Unit is off from 12:00 am until 6:30 am.*
- *The setpoint ramps from 68° F to 77° F from 6:30 am until 8:00 am*
- *The setpoint remains at 77° F until the next period or the user modifies the setpoint.*

OFF to ON period if the operating mode is Cool



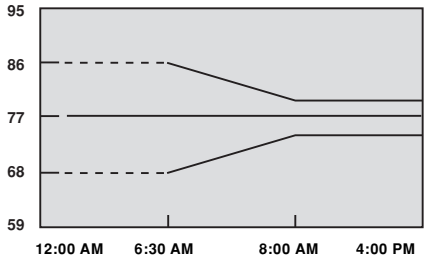
If the operating mode is "**COOL**", 1.5 hours before the "**ON**" period starts, the unit will turn on in "**COOL**" mode.
The unit will control the room air temperature to the "**ON**" periods setpoint plus 9˚ F.
The controlling setpoint will then ramp to the "**ON**" periods setpoint.

EXAMPLE OF SMART START FOR COOLING MODE:

TIME	*SETPOINT*	*TYPE OF PERIOD*
12:00 am		*OFF*
8:00 am	*77° F*	*ON*

- *Unit is off from 12:00 am until 6:30 am.*
- *The setpoint ramps from 86° F to 77° F from 6:30 am until 8:00 am*
- *The setpoint remains at 77° F until the next period or the user modifies the setpoint.*

OFF to ON period if the operating mode is Auto

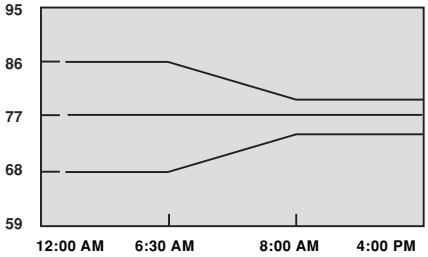


1.5 hours before the "**ON**" period starts, the unit will turn on in Auto mode.
The unit will control the room air temperature to the "**ON**" periods setpoint plus or minus the Auto Mode Deadband divided by two.
The controlling setpoints will then ramp towards the "**ON**" periods setpoint plus or minus 4 ˚F.
EXAMPLE OF SMART START FOR AUTO MODE:
Auto Mode Deadband = 18° F

TIME	*SETPOINT*	*TYPE OF PERIOD*
12:00 am		*OFF*
8:00 am	*77° F*	*ON*

- *The unit is off from 12:00 am to 6:30 pm.*
- *The Heat setpoint ramps from 68˚ F to 73° F from 6:30 am until 8:00 am.*
- *The Cool setpoint ramps from 86° F to 81° F from 6:30 am until 8:00 am.*

Setback to ON period



If the Zone Manager is currently operating in a Setback period and the next period is an "**ON**" period and the setpoint in the Setback period is the same as the setpoint in the "**ON**" period, the unit will ramp the same as going from an "**OFF**" period to an "**ON**" period.

EXAMPLE OF SMART START FOR AUTO MODE:
Auto Mode Deadband = 18˚ F

TIME	*SETPOINT*	*TYPE OF PERIOD*
12:00 am	*77° F*	*SETBACK*
8:00 am	*77° F*	*ON*

- *The Heat setpoint is 68˚ F and the Cool setpoint is 86° F from 12:00 am to 6:30 pm.*
- *The Heat setpoint ramps from 68˚ F to 73° F from 6:30 am until 8:00 am.*
- *The Cool setpoint ramps from 86° F to 81° F from 6:30 am until 8:00 am.*

If the Zone Manager is currently operating in a Setback period and the next period is an "**ON**" period with a different setpoint, the following will occur 1.5 hours before the next period is entered.

1.5 hours before the "**ON**" period starts Smart Start is activated. The unit will control the room air temperature to the Setback periods setpoint plus or minus the Auto Mode Deadband divided by two and ramp towards the "**ON**" periods setpoint plus or minus 4 ˚F.

Zone Manager
Trouble Shooting

Symptom	Possible Cause	Things to check	Solution
No LCD display	1) mis-wiring of the 12 volt power to Zone Manager control.	1) Verify that +12 v and Gnd are connected to the proper terrminals of the Zone Manager control and the COM board. Reference Installlation wiring section for correct connections 2) Check pin connections of Zone Manager to base plate terminal block while closing the plastic.	After disconnecting the power, correct the wiring problem and re-cycle power.
	2) Power not online	1) Check that the units main power is connected. The main control board should be operating normally	After verifing the wiring to the Zone Manager control, re-cycle the unit power.
	3) No 12 volts on +12 and GND of terminal block.. .	1) Check the installation of the COM board. Check to see that the 9 pin connection of the COM board to main board is correct.	After disconnecting the power, correct the wiring problem and re-cycle power.
+12 volts applied to CZM at the correct terminals and still does not operate	1) Make sure the cable connections are correct 2) The Zone Manager control is damaged.		Verify wiring did not damage the Zone Manager. Change the Zone Manager control and re-cycle power.

System errors	
System does not Heat/Cool	1) If diagnostic code is displayed, check diagnostic trouble shooting table. 2) Put the zone manager into "Installation Test" mode and check unit's LED to blink rapidly. If the unit's LED does not blink: 1) Configure unit for the proper zone and re-try "Installation Test". 2) Check communication wiring. 3) Check prime board installation.
	3) Select Heat/Cool mode. Adjust the set point so that there is a real heating or cooling request. Wait for unit's time guard to expire. If unit does not operate, check unit for errors. If unit does operate, Check the Zone Managers programming for scheduling errors.

Diagnostic errors	
Displayed error "**A2**"	Temperature sensor error! Check temperature sensor for damage. If recycling power does not clear display, replace the Zone Manager.
Displayed error "**Cx**" Where **x** is a number identifying a zone.	Communication error with unit(s) in zone (x)! 1) Put the zone manager into "Installation Test" mode and check unit(s) LED to blink rapidly. If the units LED does not blink: 1) Configure unit for the proper zone and re-try "COMM" mode. 2) Check communication wiring 3) Check prime board installation.
Displayed error "**Fx**" Where **x** is a number identifying a zone.	Unit(s) in zone (x) has recorded a failure! 1) go to the unit(s) in zone (x) and determine the cause of the failure.

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The manufacturer reserves the right to change any product specifications without notice.

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